

PART IV—General Mortality Statistics

Chart 4.1
Age-Adjusted Mortality Rates
Calendar Years 1989–1991

In 1989-1991, the age-adjusted mortality rate (all causes) for the IHS service area population was 585.2. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 713.9. This is 37 percent higher than the U.S. All Races rate of 520.2 for 1990. The Aberdeen rate (1,067.2) was more than double the U.S. rate.

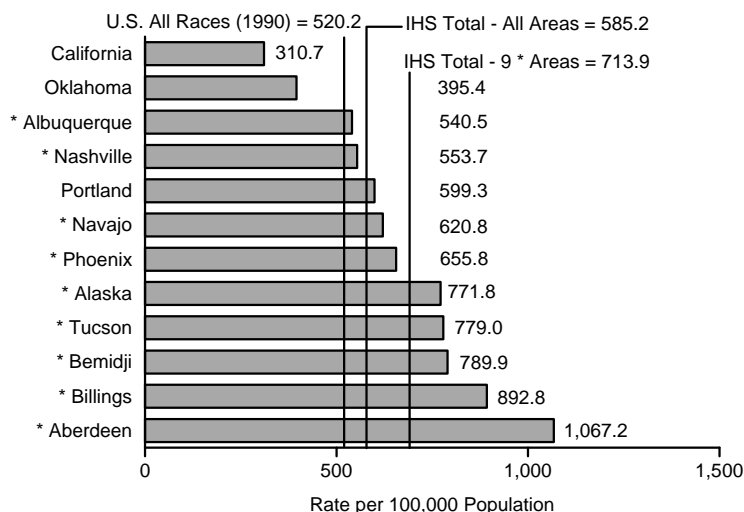


Table 4.1
Age-Adjusted Mortality Rates
(All Causes)
Calendar Years 1989–1991

	Total deaths	Rate ¹
U.S. All Races (1990)	2,148,463	520.2
All IHS Areas	19,084	585.2
9* Areas ²	12,924	713.9
Aberdeen*	1,891	1,067.2
Alaska*	1,702	771.8
Albuquerque*	979	540.5
Bemidji*	1,198	789.9
Billings*	997	892.8
California	897	310.7
Nashville*	809	553.7
Navajo*	3,009	620.8
Oklahoma	3,400	395.4
Phoenix*	1,849	655.8
Portland	1,863	599.3
Tucson*	490	799.0

¹ Rate per 100,000 population.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.



Chart 4.2 Years of Productive Life Lost Rates

Calendar Years 1989–1991

In 1989–1991, the years of productive life lost rate (all causes) for the IHS service area population was 86.7. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 109.2. This is nearly double the U.S. All Races rate of 56.2 for 1990. Each of the remaining 9 IHS Areas had a rate greater than the U.S. All Races rate.

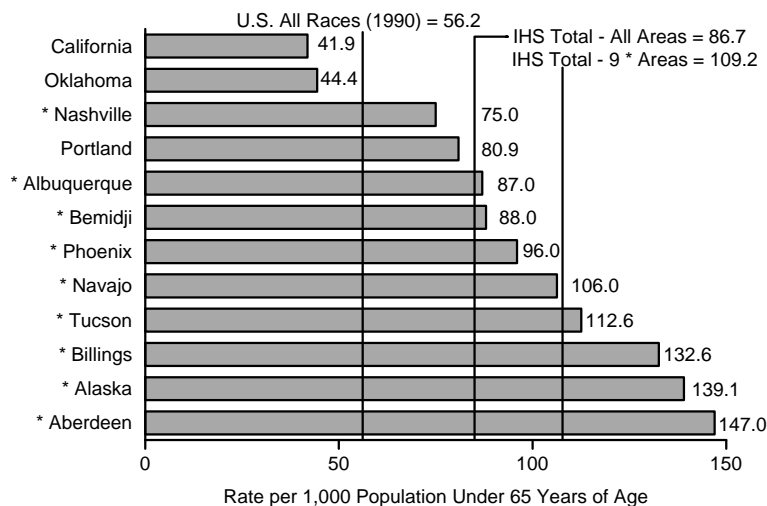


Table 4.2 Years of Productive Life Lost (YPLL) Rates (All Causes)

Calendar Years 1989–1991

	Number of YPLL ¹	Rate ²
U.S. All Races (1990)	12,237,379	56.2
All IHS Areas	296,436	86.7
9* Areas ³	222,548	109.2
Aberdeen*	32,099	147.0
Alaska*	34,336	139.1
Albuquerque*	16,555	87.0
Bemidji*	15,305	88.0
Billings*	17,875	132.6
California	12,390	41.9
Nashville*	10,608	75.0
Navajo*	54,797	106.0
Oklahoma	31,992	44.4
Phoenix*	33,144	96.0
Portland	29,506	80.9
Tucson*	7,829	112.6

¹ Years of Productive Life Lost (YPLL) is a mortality indicator which measures the burden of premature deaths. It is calculated by subtracting the age at death from age 65 and summing the result over all deaths.

² Rate per 1,000 population under 65 years of age.

³ The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.3
Leading Causes of Death
 All IHS Areas, Calendar Years 1989–1991

In 1989-1991, 21.9 percent of all deaths in the IHS service area were caused by diseases of the heart. This was followed by accidents and adverse effects at 15.3 percent.

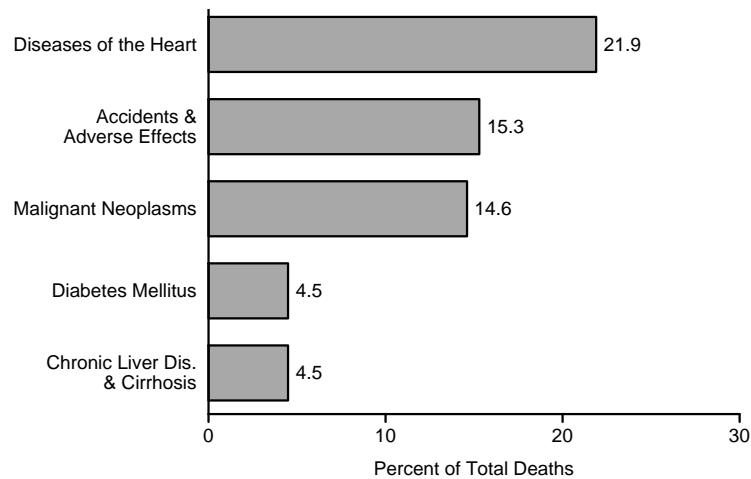
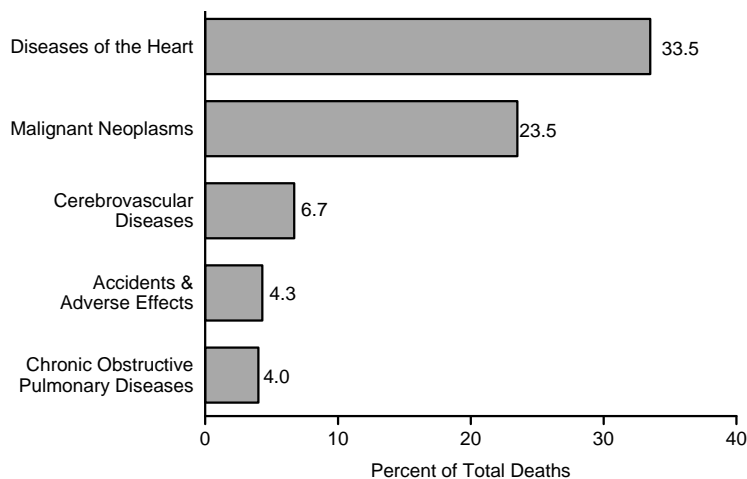


Chart 4.4
Leading Causes of Death
 U.S. All Races, Calendar Year 1990

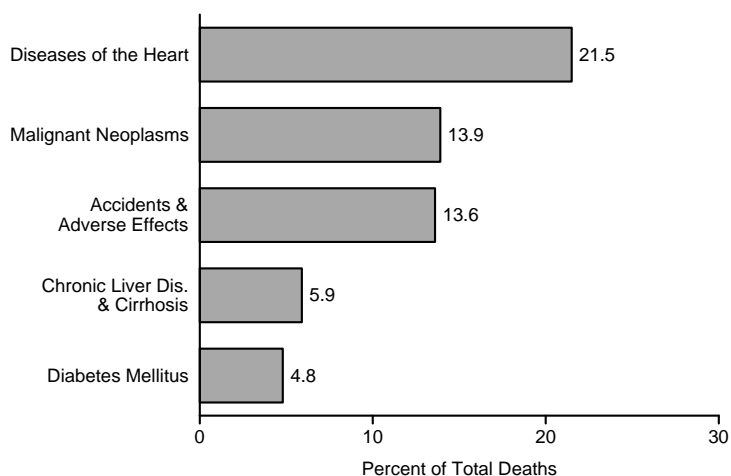
In 1990, 33.5 percent of all deaths in the U.S. were caused by diseases of the heart. This was followed by malignant neoplasms at 23.5 percent.



In 1989-1991, 21.5 percent of all deaths in the Aberdeen Area were caused by diseases of the heart. This was followed by malignant neoplasms at 13.9 percent.

Chart 4.5 Leading Causes of Death

Aberdeen Area, Calendar Years 1989-1991



In 1989-1991, 21.2 percent of all deaths in the Alaska Area were caused by accidents and adverse effects. This was followed by diseases of the heart at 17.3 percent.

Chart 4.6 Leading Causes of Death

Alaska Area, Calendar Years 1989-1991

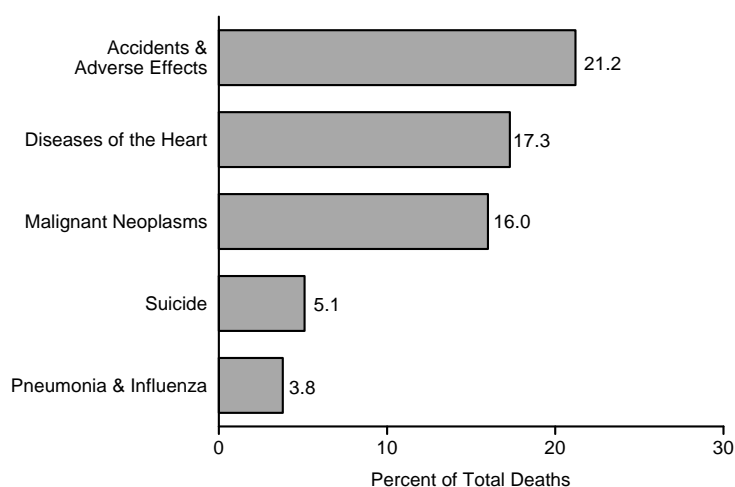


Chart 4.7
Leading Causes of Death
 Albuquerque Area, Calendar Years 1989–1991

In 1989-1991, 16.9 percent of all deaths in the Albuquerque Area were caused by accidents and adverse effects. This was followed by diseases of the heart at 15.3 percent.

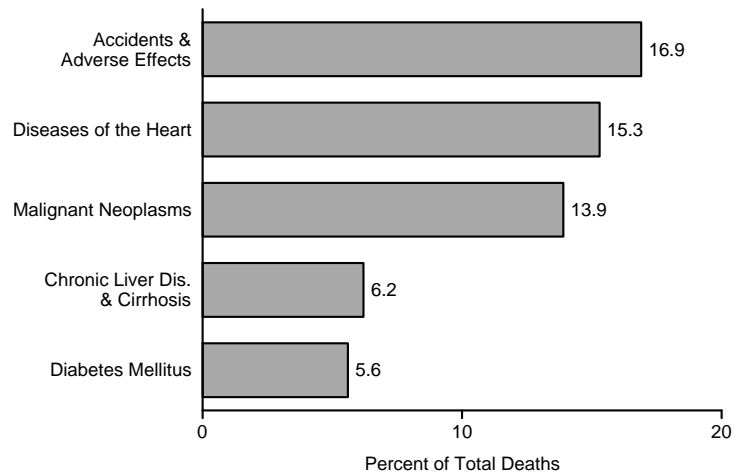
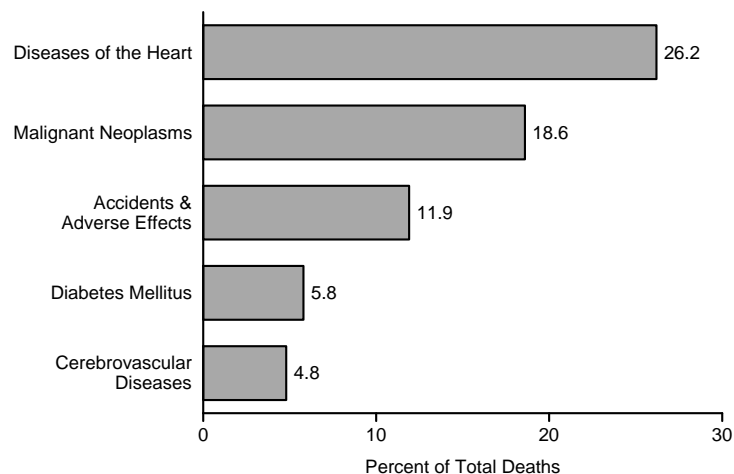


Chart 4.8
Leading Causes of Death
 Bemidji Area, Calendar Years 1989–1991

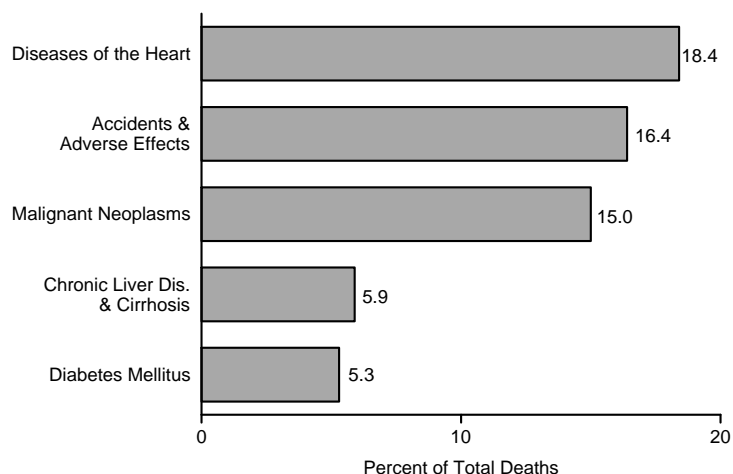
In 1989-1991, 26.2 percent of all deaths in the Bemidji Area were caused by diseases of the heart. This was followed by malignant neoplasms at 18.6 percent.



In 1989-1991, 18.4 percent of all deaths in the Billings Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 16.4 percent.

Chart 4.9 Leading Causes of Death

Billings Area, Calendar Years 1989-1991



In 1989-1991, 24.4 percent of all deaths in the California Area were caused by diseases of the heart. This was followed by malignant neoplasms at 14.6 percent.

Chart 4.10 Leading Causes of Death

California Area, Calendar Years 1989-1991

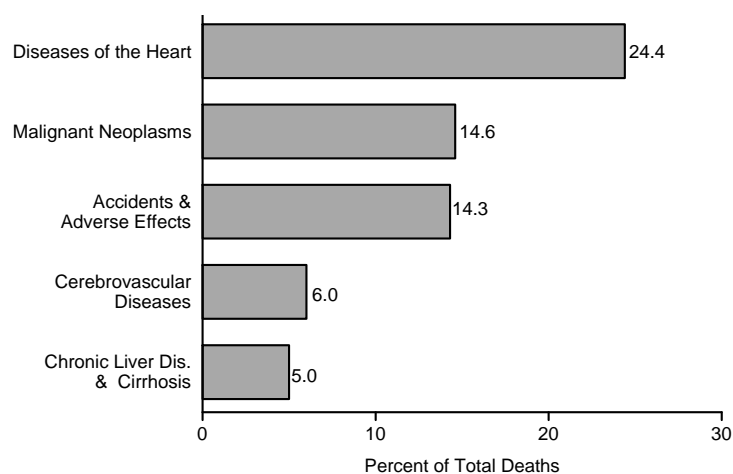


Chart 4.11
Leading Causes of Death
 Nashville Area, Calendar Years 1989–1991

In 1989–1991, 26.7 percent of all deaths in the Nashville Area were caused by diseases of the heart. This was followed by malignant neoplasms at 18.5 percent.

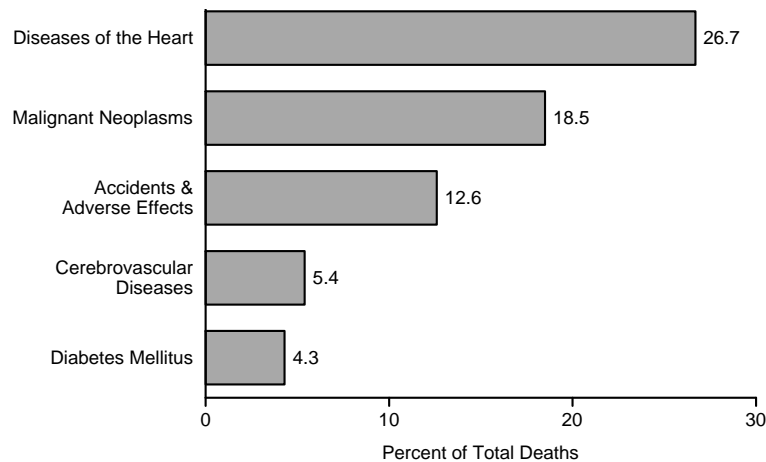
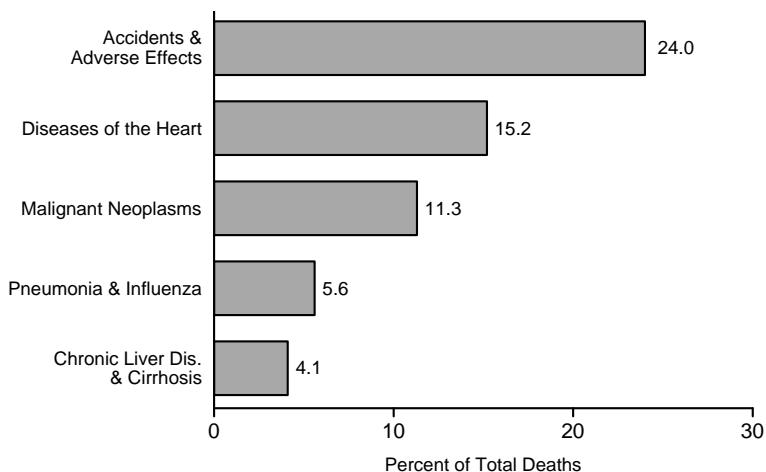


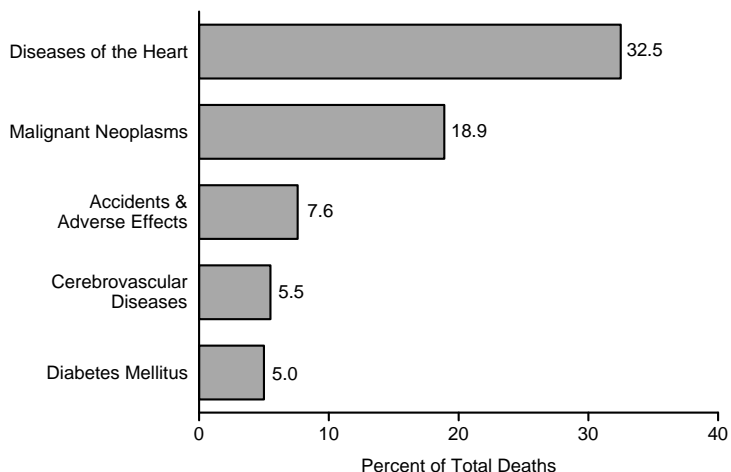
Chart 4.12
Leading Causes of Death
 Navajo Area, Calendar Years 1989–1991

In 1989–1991, 24.0 percent of all deaths in the Navajo Area were caused by accidents and adverse effects. This was followed by diseases of the heart at 15.2 percent.



In 1989-1991, 32.5 percent of all deaths in the Oklahoma Area were caused by diseases of the heart. This was followed by malignant neoplasms at 18.9 percent.

Chart 4.13
Leading Causes of Death
Oklahoma Area, Calendar Years 1989-1991



In 1989-1991, 17.5 percent of all deaths in the Phoenix Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 16.8 percent.

Chart 4.14
Leading Causes of Death
Phoenix Area, Calendar Years 1989-1991

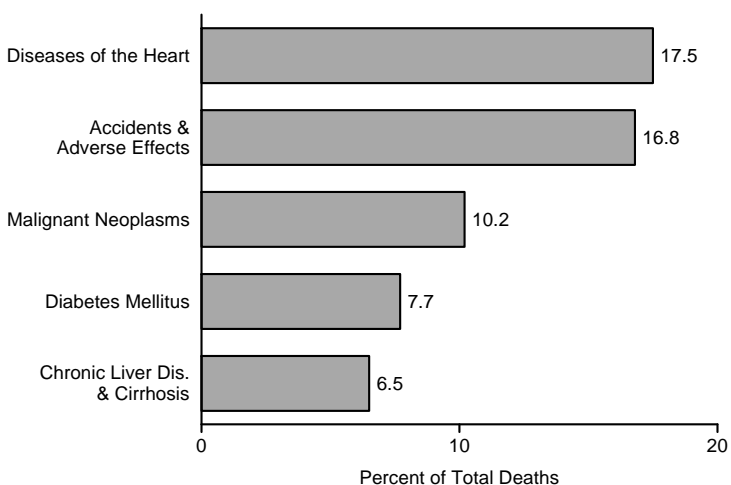


Chart 4.15
Leading Causes of Death
 Portland Area, Calendar Years 1989–1991

In 1989-1991, 23.2 percent of all deaths in the Portland Area were caused by diseases of the heart. This was followed by malignant neoplasms at 13.3 percent.

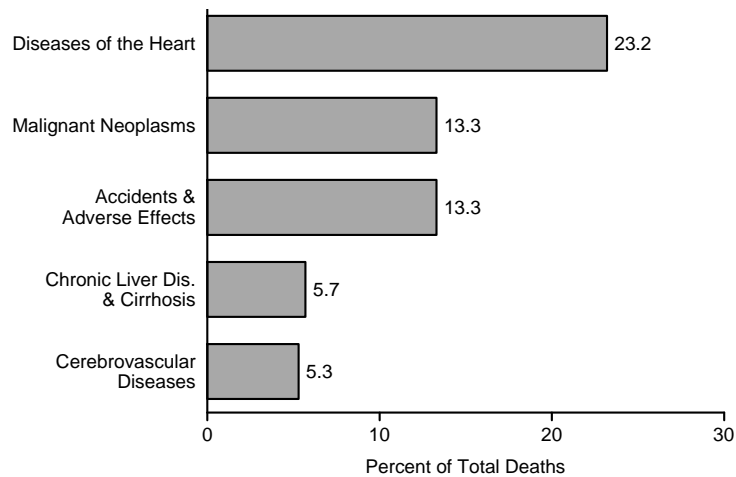


Chart 4.16
Leading Causes of Death
 Tucson Area, Calendar Years 1989–1991

In 1989-1991, 14.7 percent of all deaths in the Tucson Area were caused by diseases of the heart. This was followed by accidents and adverse effects at 14.1 percent.

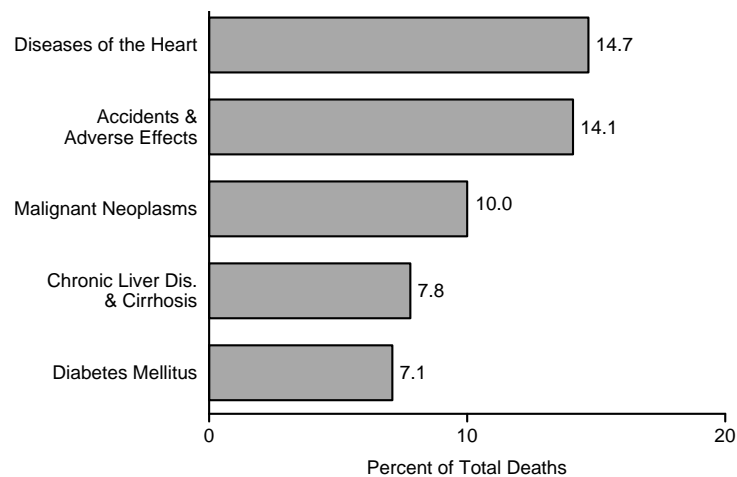


Chart 4.17 Age-Adjusted Injury and Poisoning Mortality Rates

Calendar Years 1989-1991

In 1989-1991, the age-adjusted injury and poisoning mortality rate for the IHS service area population was 120.3. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 159.3. This is nearly 3 times the U.S. All Races rate of 55.1 for 1990. Three Areas (Alaska, Navajo, and Aberdeen) had rates exceeding 180.0.

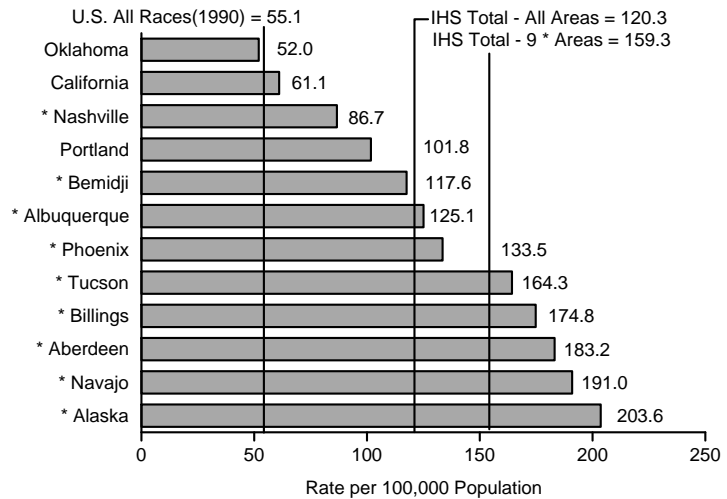


Table 4.17 Age-Adjusted Injury and Poisoning¹ Mortality Rates

Calendar Years 1989-1991

	Deaths ²	Rate ³
U.S. All Races (1990)	150,211	55.1
All IHS Areas	4,109	120.3
9* Areas ⁴	3,150	159.3
Aberdeen*	363	183.2
Alaska*	499	203.6
Albuquerque*	249	125.1
Bemidji*	197	117.6
Billings*	227	174.8
California	188	61.1
Nashville*	127	86.7
Navajo*	923	191.0
Oklahoma	398	52.0
Phoenix*	457	133.5
Portland	377	101.8
Tucson*	108	164.3

¹ Includes the following ICD-9 cause of death groups combined: Motor vehicle accidents-E810-E825. Other accidents-E800-E807, E826-E949. Suicide-E950-E959. Homicide-E960-E978. Injury undetermined whether accidentally or purposely inflicted-E980-E989. Injury resulting from operations of war-E990-E999.

² Includes deaths with age not reported. For IHS, includes Albuquerque-1 death, Oklahoma-2 deaths, and Phoenix-1 death.

³ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

⁴ The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

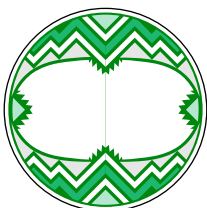


Chart 4.18
Age-Adjusted Accident Mortality Rates
 Calendar Years 1989–1991

In 1989-1991, the age-adjusted accident mortality rate for the IHS service area population was 86.0. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 116.9. This is 216 percent higher than the U.S. All Races rate of 37.0 for 1990. The Navajo Area had the highest rate (149.6) which was mainly attributable to motor vehicle accidents. For the IHS service area, 23.1 percent of the motor vehicle accidents were pedestrian-related compared to 15.4 percent for the U.S. All Races population.

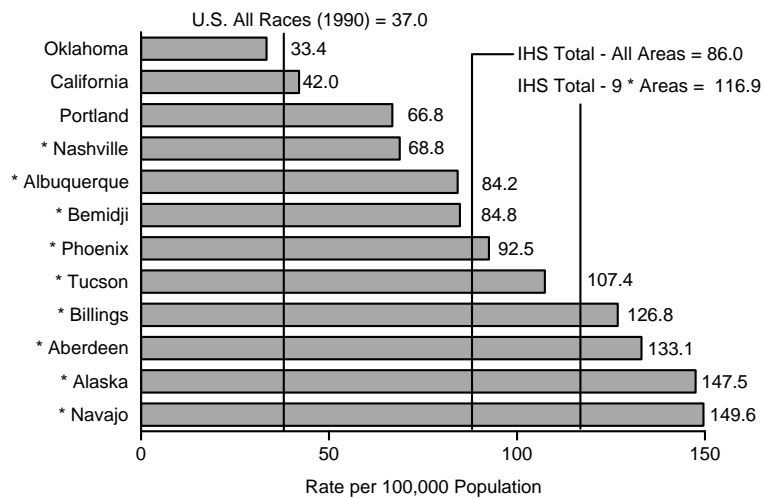


Table 4.18
Age-Adjusted Accident Mortality Rates
 Calendar Years 1989–1991

	Motor vehicle accidents							
					Pedestrian-related ¹			
	All accidents		Totals		Percent of motor vehicle accident deaths		Other accidents	
	Deaths	Rate ²	Deaths	Rate ²	Deaths		Deaths	Rate ²
U.S. All Races (1990)	91,983	37.0	46,814	18.8	7,205	15.4%	45,169	18.2
All IHS Areas	2,925	86.0	1,642	48.3	380	23.1%	1,283	37.6
9* Areas ²	2,292	116.9	1,277	64.9	316	24.7%	1,015	52.0
Aberdeen*	258	133.1	153	77.8	25	16.3%	105	55.3
Alaska*	360	147.5	68	28.8	20	29.4%	292	118.7
Albuquerque*	165	84.2	110	55.6	39	35.5%	55	28.6
Bemidji*	142	84.8	78	48.5	12	15.4%	64	36.3
Billings*	164	126.8	108	83.2	15	13.9%	56	43.6
California	128	42.0	76	24.5	14	18.4%	52	17.5
Nashville*	102	68.8	60	40.6	15	25.0%	42	28.2
Navajo*	722	149.6	454	93.2	134	29.5%	268	56.4
Oklahoma	258	33.4	150	20.0	24	16.0%	108	13.5
Phoenix*	310	92.5	203	59.0	43	21.2%	107	33.5
Portland	247	66.8	139	37.7	26	18.7%	108	29.2
Tucson*	69	107.4	43	64.5	13	30.2%	26	42.9

¹ Includes motor vehicle accidents having ICD-9 codes E810-E825 with a fourth digit code .7. The fourth digit code .7 indicates that a pedestrian was the subject decedent as a result of the motor vehicle accident.

² Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

³ The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

In 1989-1991, the age-adjusted suicide mortality rate for the IHS service area population was 16.5. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 21.3. This is 85 percent higher than the U.S. All Races rate of 11.5 for 1990. Three Areas (Alaska, Billings, and Aberdeen) had rates more than double the U.S. rate.

Chart 4.19 Age-Adjusted Suicide Mortality Rates

Calendar Years 1989–1991

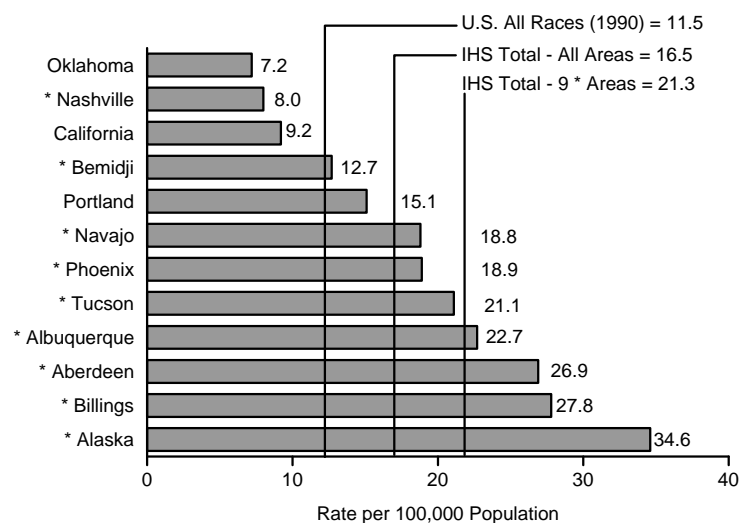
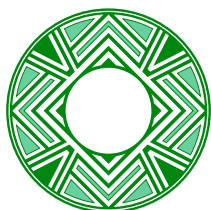


Table 4.19 Age-Adjusted Suicide Mortality Rates

Calendar Years 1989–1991



	Deaths	Rate ¹
U.S. All Races (1990)	30,906	11.5
All IHS Areas	571	16.5
9* Areas ²	432	21.3
Aberdeen*	55	26.9
Alaska*	87	34.6
Albuquerque*	47	22.7
Bemidji*	22	12.7
Billings*	35	27.8
California	28	9.2
Nashville*	11	8.0
Navajo*	91	18.8
Oklahoma	54	7.2
Phoenix*	69	18.9
Portland	57	15.1
Tucson*	15	21.1

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.20 Age-Adjusted Homicide Mortality Rates

Calendar Years 1989–1991

In 1989-1991, the age-adjusted homicide mortality rate for the IHS service area population was 15.3. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 18.4. This is 80 percent higher than the U.S. All Races rate of 10.2 for 1990. The Tucson Area rate of 35.7 was 3.5 times the U.S. rate.

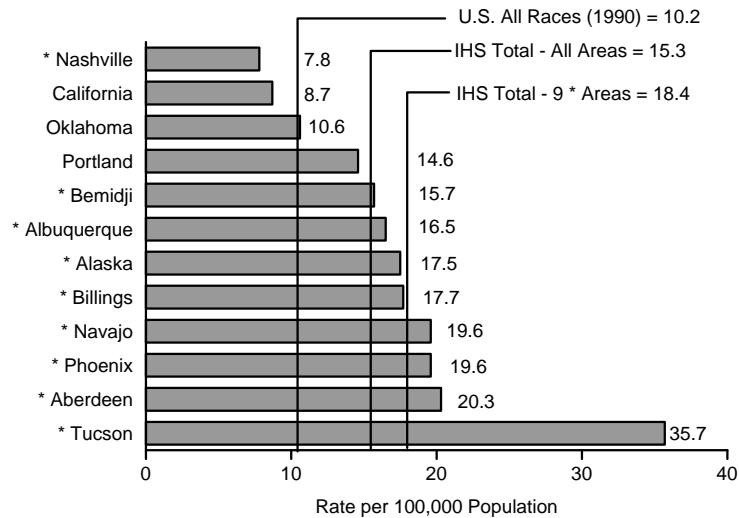


Table 4.20 Age-Adjusted Homicide Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	24,932	10.2
All IHS Areas	529	15.3
9* Areas ²	369	18.4
Aberdeen*	44	20.3
Alaska*	43	17.5
Albuquerque*	33	16.5
Bemidji*	25	15.7
Billings*	24	17.7
California	28	8.7
Nashville*	11	7.8
Navajo*	96	19.6
Oklahoma	78	10.6
Phoenix*	69	19.6
Portland	54	14.6
Tucson*	24	35.7

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.21

Age-Adjusted Mortality Rates for Injury and Poisoning Deaths Due to Other Causes

Calendar Years 1989–1991

In 1989–1991 for the IHS service area population, the age-adjusted mortality rate for injury and poisoning deaths due to other causes was 4.8. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 5.4. This is 6 times the U.S. All Races rate of 0.9 for 1990. The Area rates should be interpreted with caution because of the small number of deaths involved.

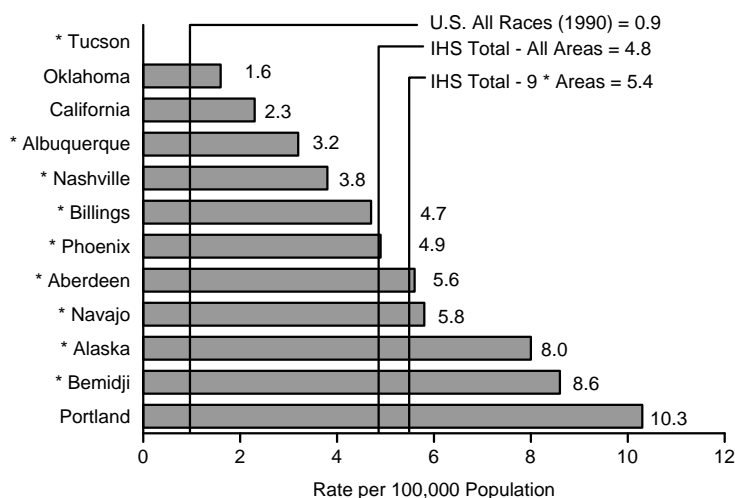


Table 4.21

Age-Adjusted Mortality Rates for Injury and Poisoning Deaths Due to Other Causes¹

Calendar Years 1989–1991

	Deaths	Rate ²
U.S. All Races (1990)	2,390	0.9
All IHS Areas	85	4.8
9* Areas ³	56	5.4
Aberdeen*	6	5.6
Alaska*	9	8.0
Albuquerque*	4	3.2
Bemidji*	8	8.6
Billings*	4	4.7
California	4	2.3
Nashville*	3	3.8
Navajo*	14	5.8
Oklahoma	6	1.6
Phoenix*	8	4.9
Portland	19	10.3
Tucson*	—	—

¹ Includes the following ICD-9 cause of death groups combined: Injury undetermined whether accidentally or purposely inflicted-E980-E989. Injury resulting from operations of war-E990-E999. (There were 14 deaths due to this cause for the U.S. All Races during 1990 and 0 deaths for the American Indian and Alaska Native population in the IHS service area, 1989-1991.)

² Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

³ The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

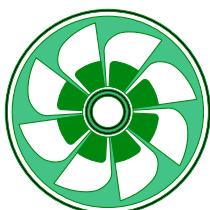


Chart 4.22 Age-Adjusted Alcoholism Mortality Rates

Calendar Years 1989–1991

In 1989–1991, the age-adjusted alcoholism mortality rate for the IHS service area population was 37.6. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 51.8. This is 630 percent higher than the U.S. All Races rate of 7.1 for 1990. The Aberdeen Area rate of 95.6 was 13.5 times the U.S. rate.

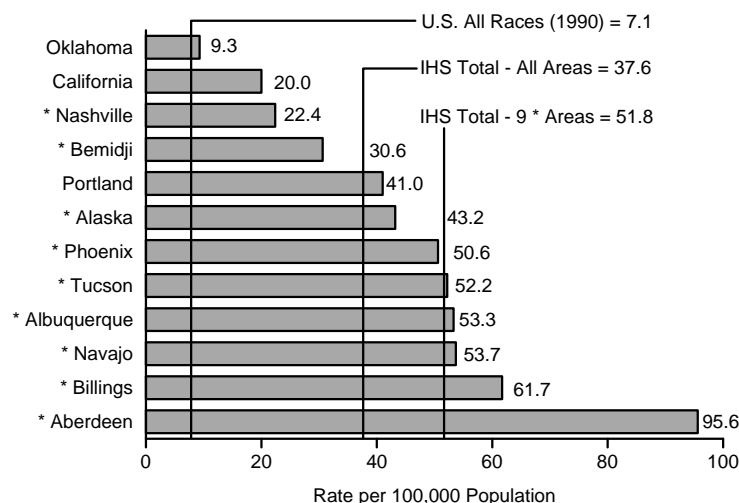


Table 4.22 Age-Adjusted Alcoholism Mortality Rates

Calendar Years 1989–1991

	Number of deaths and ICD-9 cause of death group									Rate ¹
	All causes	291	303	305.0	425.5	535.3	571.0–571.3	790.3	E860.0–E860.1	
U.S. All Races (1990)	19,587	433	5,226	788	860	85	12,000	15	180	7.1
All IHS Areas	1,079	22	290	90	21	6	627	5	18	37.6
9* Areas ²	838	15	233	77	14	3	475	5	16	51.8
Aberdeen*	145	3	38	10	1	—	91	—	2	95.6
Alaska*	89	2	14	24	3	1	39	5	1	43.2
Albuquerque*	82	4	21	6	1	—	50	—	—	53.3
Bemidji*	43	1	10	3	1	—	25	—	3	30.6
Billings*	64	1	14	1	1	—	47	—	—	61.7
California	51	—	13	2	1	1	34	—	—	20.0
Nashville*	29	—	9	1	1	1	16	—	1	22.4
Navajo*	222	3	85	27	5	1	94	—	7	53.7
Oklahoma	64	2	14	2	2	2	41	—	1	9.3
Phoenix*	133	1	33	4	1	—	92	—	2	50.6
Portland	126	5	30	9	4	—	77	—	1	41.0
Tucson*	31	—	9	1	—	—	21	—	—	52.2

¹ Age-adjusted rate per 100,000 population. The rate computation excludes 3 deaths with age not reported. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

291—Alcoholic Psychoses; 303—Alcoholic Dependence Syndrome; 305.0—Alcohol Overdose; 425.5—Alcoholic Cardiomyopathy; 535.3—Alcoholic Gastritis; 571.0–571.3—Alcoholic Liver Disease; 790.3—Elevated Blood-Alcohol Level; E860.0, E860.1—Accidental Poisoning by Alcohol, not elsewhere classified.

Chart 4.23 Age-Adjusted Diabetes Mellitus Mortality Rates

Calendar Years 1989–1991

In 1989-1991, the age-adjusted diabetes mortality rate for the IHS service area population was 29.7. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 38.8. This is 232 percent higher than the U.S. All Races rate of 11.7 for 1990. All of the IHS Areas had a rate greater than the U.S. rate with the exception of Alaska and California (however the California rate is low because of Indian race reporting problems).

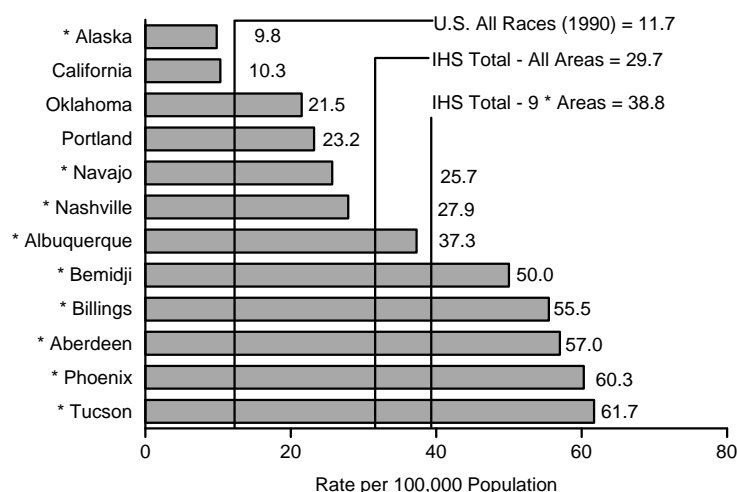


Table 4.23 Age-Adjusted Diabetes Mellitus Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	47,664	11.7
All IHS Areas	861	29.7
9* Areas ²	600	38.8
Aberdeen*	90	57.0
Alaska*	19	9.8
Albuquerque*	55	37.3
Bemidji*	69	50.0
Billings*	53	55.5
California	27	10.3
Nashville*	35	27.9
Navajo*	102	25.7
Oklahoma	171	21.5
Phoenix*	142	60.3
Portland	63	23.2
Tucson*	35	61.7

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.24 Age-Adjusted Tuberculosis Mortality Rates

Calendar Years 1989–1991

In 1989–1991, the age-adjusted tuberculosis mortality rate for the IHS service area population was 2.7. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 3.4. This is nearly 7 times the U.S. All Races rate of 0.5 for 1990. The Area rates should be interpreted with caution because of the small number of deaths involved. The Navajo and Oklahoma Areas had the most deaths over the 3-year period, both with 18.

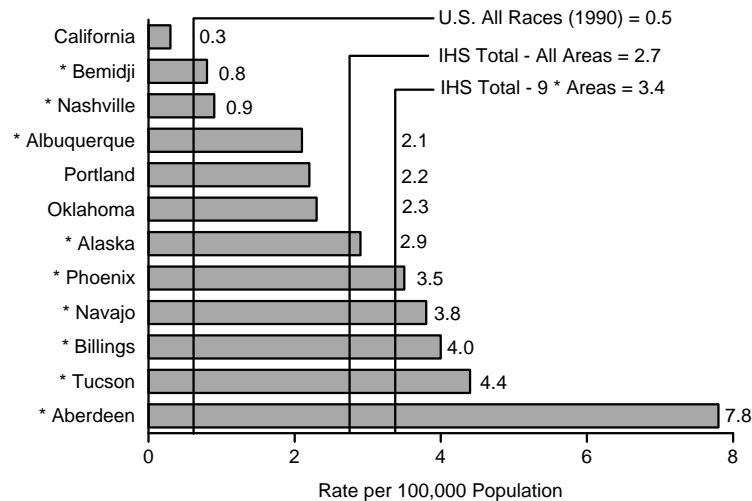


Table 4.24 Age-Adjusted Tuberculosis Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	1,810	0.5
All IHS Areas	82	2.7
9* Areas ²	57	3.4
Aberdeen*	12	7.8
Alaska*	6	2.9
Albuquerque*	3	2.1
Bemidji*	1	0.8
Billings*	5	4.0
California	1	0.3
Nashville*	1	0.9
Navajo*	18	3.8
Oklahoma	18	2.3
Phoenix*	8	3.5
Portland	6	2.2
Tucson*	3	4.4

¹ Rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.



Chart 4.25 Age-Adjusted Gastrointestinal Diseases Mortality Rates

Calendar Years 1989–1991

In 1989–1991, the age-adjusted gastrointestinal diseases mortality rate for the IHS service area population was 1.2. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 1.3. This is the same as the U.S. All Races rate for 1990. The Area rates should be interpreted with caution because of the small number of deaths involved. The Navajo and Oklahoma Areas had the most deaths over the 3-year period, both with 8.

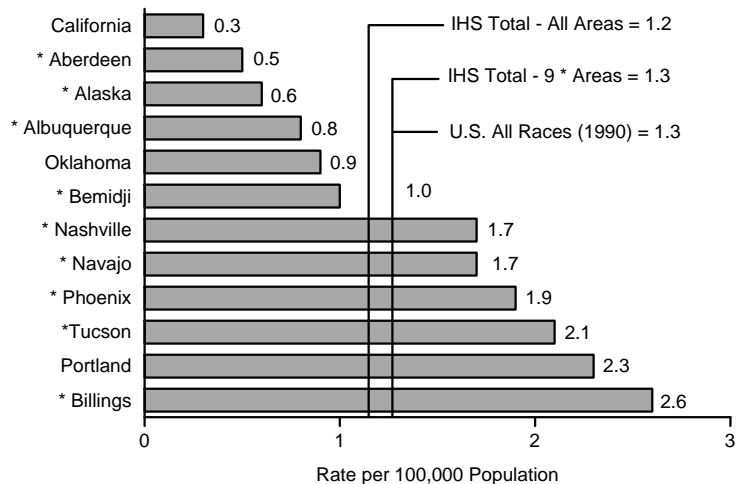


Table 4.25 Age-Adjusted Gastrointestinal Diseases Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	6,007	1.3
All IHS Areas	44	1.2
9* Areas ²	29	1.3
Aberdeen*	1	0.5
Alaska*	2	0.6
Albuquerque*	3	0.8
Bemidji*	2	1.0
Billings*	3	2.6
California	1	0.3
Nashville*	3	1.7
Navajo*	8	1.7
Oklahoma	8	0.9
Phoenix*	6	1.9
Portland	6	2.3
Tucson*	1	2.1

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.



Chart 4.26 Age-Adjusted Diseases of the Heart Mortality Rates

Calendar Years 1989–1991

In 1989-1991, the age-adjusted diseases of the heart mortality rate for the IHS service area population was 132.1. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 142.8. This is 6 percent less than the U.S. All Races rate of 152.0 for 1990. The Albuquerque and Navajo Area rates are well below the U.S. rate.

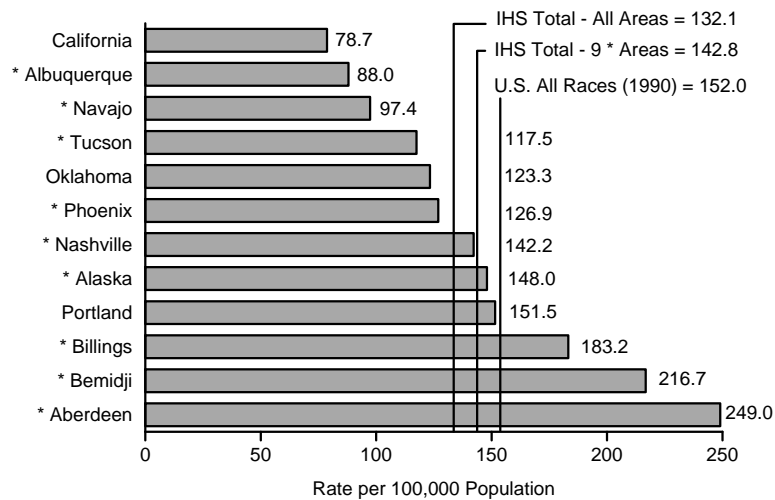


Table 4.26 Age-Adjusted Diseases of the Heart Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	720,058	152.0
All IHS Areas	4,171	132.1
9* Areas ²	2,414	142.8
Aberdeen*	406	249.0
Alaska*	295	148.0
Albuquerque*	150	88.0
Bemidji*	314	216.7
Billings*	183	183.2
California	219	78.7
Nashville*	216	142.2
Navajo*	456	97.4
Oklahoma	1,105	123.3
Phoenix*	322	126.9
Portland	433	151.5
Tucson*	72	117.5

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

In 1989-1991, the age-adjusted cerebrovascular diseases mortality rate for the IHS service area population was 25.2. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 28.5. This is slightly higher than the U.S. All Races rate of 27.7 for 1990. The Aberdeen Area rate of 45.2 was 2.4 times the Navajo Area rate of 19.2.

Chart 4.27

Age-Adjusted Cerebrovascular Diseases Mortality Rates

Calendar Years 1989-1991

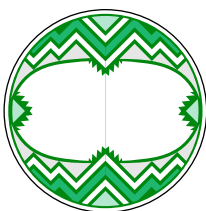
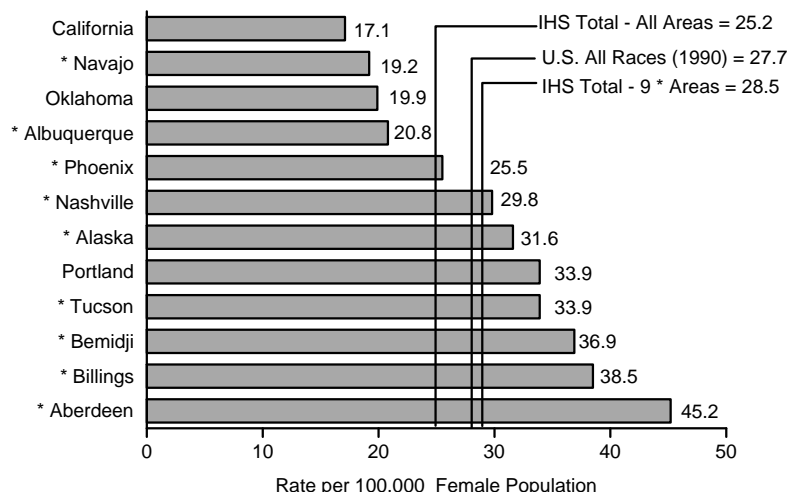


Table 4.27

Age-Adjusted Cerebrovascular Diseases Mortality Rates

Calendar Years 1989-1991

	Deaths	Rate ¹
U.S. All Races (1990)	144,088	27.7
All IHS Areas	839	25.2
9* Areas ²	499	28.5
Aberdeen*	78	45.2
Alaska*	63	31.6
Albuquerque*	40	20.8
Bemidji*	58	36.9
Billings*	40	38.5
California	54	17.1
Nashville*	44	29.8
Navajo*	90	19.2
Oklahoma	188	19.9
Phoenix*	67	25.5
Portland	98	33.9
Tucson*	19	33.9

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.28 Age-Adjusted Malignant Neoplasm Mortality Rates

Calendar Years 1989–1991

In 1989-1991, the age-adjusted malignant neoplasm mortality rate for the IHS service area population was 94.5. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 111.2. This is 18 percent less than the U.S. All Races rate of 135.0 for 1990. However, the Aberdeen, Bemidji, Billings, and Alaska Areas had rates greater than the U.S. rate.

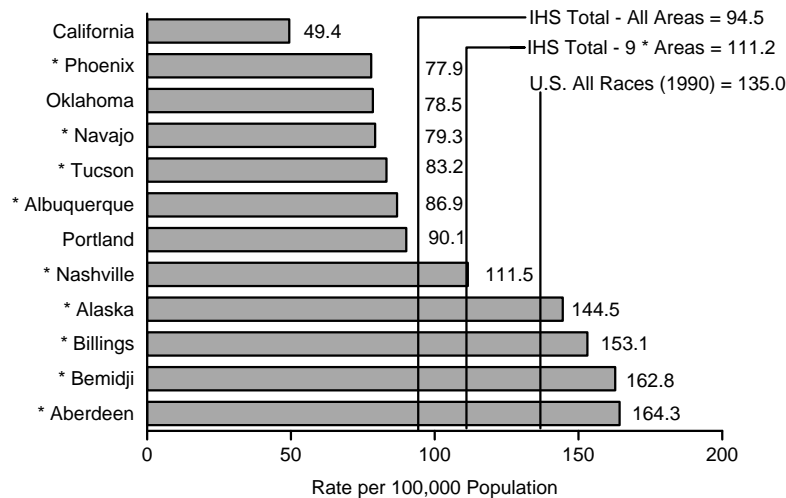


Table 4.28 Age-Adjusted Malignant Neoplasm Mortality Rates

Calendar Years 1989–1991

	Deaths	Rate ¹
U.S. All Races (1990)	505,322	135.0
All IHS Areas	2,793	94.5
9* Areas ²	1,770	111.2
Aberdeen*	262	164.3
Alaska*	273	144.5
Albuquerque*	136	86.9
Bemidji*	223	162.8
Billings*	150	153.1
California	131	49.4
Nashville*	150	111.5
Navajo*	339	79.3
Oklahoma	644	78.5
Phoenix*	188	77.9
Portland	248	90.1
Tucson*	49	83.2

¹ Age-adjusted rate per 100,000 population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

In 1989-1991, the age-adjusted breast cancer mortality rate for females in the IHS service area population was 11.6. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 12.9. This is 44 percent less than the U.S. All Races rate of 23.1 for 1990. The Billings Area rate of 21.9 approached the U.S. rate.

Chart 4.29 Age-Adjusted Breast Cancer Mortality Rates for Females

Calendar Years 1989-1991

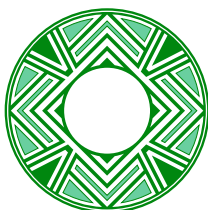
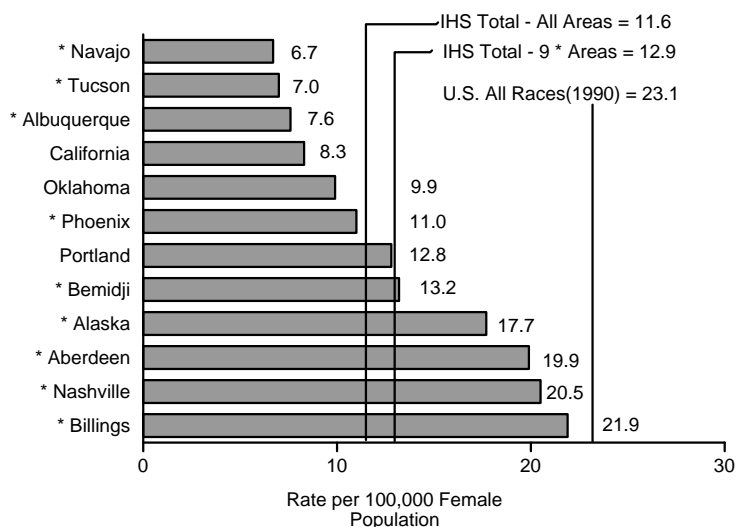


Table 4.29 Age-Adjusted Breast Cancer Mortality Rates For Females

Calendar Years 1989-1991

	Total deaths	Rate ¹
U.S. All Races (1990)	43,391	23.1
All IHS Areas	180	11.6
9* Areas ²	108	12.9
Aberdeen*	18	19.9
Alaska*	16	17.7
Albuquerque*	6	7.6
Bemidji*	10	13.2
Billings*	11	21.9
California	12	8.3
Nashville*	15	20.5
Navajo*	15	6.7
Oklahoma	40	9.9
Phoenix*	15	11.0
Portland	20	12.8
Tucson*	2	7.0

¹ Age-adjusted rate per 100,000 female population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

Chart 4.30 Age-Adjusted Cervical Cancer Mortality Rates for Females

Calendar Years 1989–1991

In 1989-1991, the age-adjusted cervical cancer mortality rate for females in the IHS service area population was 6.0. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 6.7. This is 2.4 times the U.S. All Races rate of 2.8 for 1990. The Area rates should be interpreted with caution because of the small number of deaths involved. Navajo (23) was the only Area with more than 20 deaths over the 3-year period.

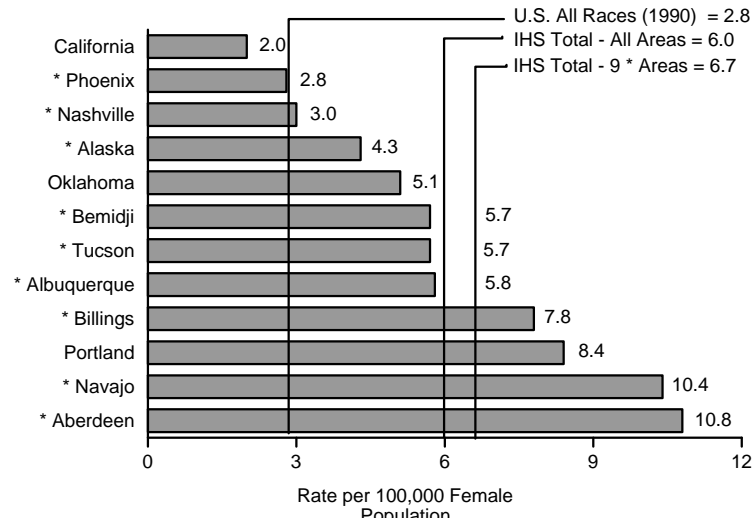


Table 4.30 Age-Adjusted Cervical Cancer Mortality Rates For Females

Calendar Years 1989–1991

	Total deaths	Rate ¹
U.S. All Races (1990)	4,627	2.8
All IHS Areas	92	6.0
9* Areas ²	58	6.7
Aberdeen*	9	10.8
Alaska*	5	4.3
Albuquerque*	5	5.8
Bemidji*	4	5.7
Billings*	4	7.8
California	3	2.0
Nashville*	2	3.0
Navajo*	23	10.4
Oklahoma	18	5.1
Phoenix*	4	2.8
Portland	13	8.4
Tucson*	2	5.7

¹ Age-adjusted rate per 100,000 female population. Rates based on a small number of deaths should be interpreted with caution.

² The 3 IHS Areas that do not have an asterisk (California, Oklahoma, and Portland) appear to have a problem with underreporting of Indian race on death certificates. Therefore a separate IHS rate was calculated excluding these 3 Areas.

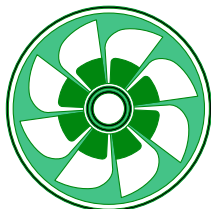


Chart 4.31 Life Expectancy at Birth, Both Sexes

Calendar Years 1989–1991

In 1989-1991, the life expectancy at birth (both sexes) for the IHS service area population was 73.2 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 70.2 years. This is 5.2 years less than the 1990 figure of 75.4 for the U.S. All Races population. Most Areas had figures less than the U.S. figure.

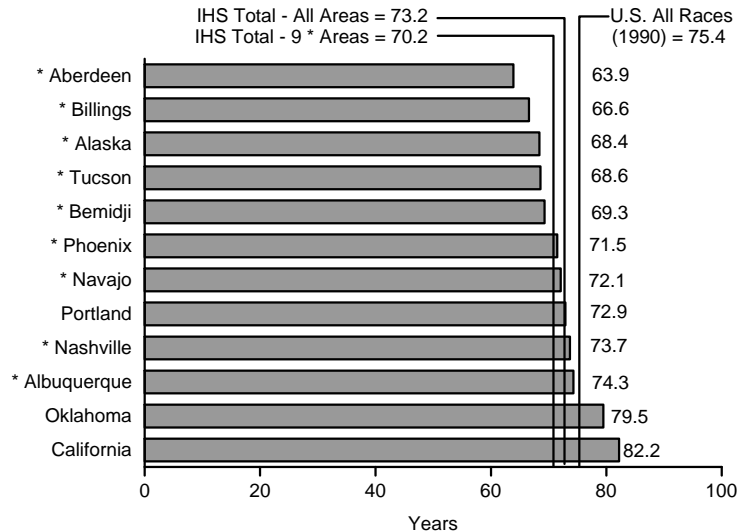


Chart 4.32 Life Expectancy at Birth, Males

Calendar Years 1989–1991

In 1989-1991, the life expectancy at birth for males in the IHS service area population was 69.1 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 66.0 years. This is 5.8 years less than the 1990 figure of 71.8 years for the U.S. All Races male population. Most Areas had figures less than the U.S. figure.

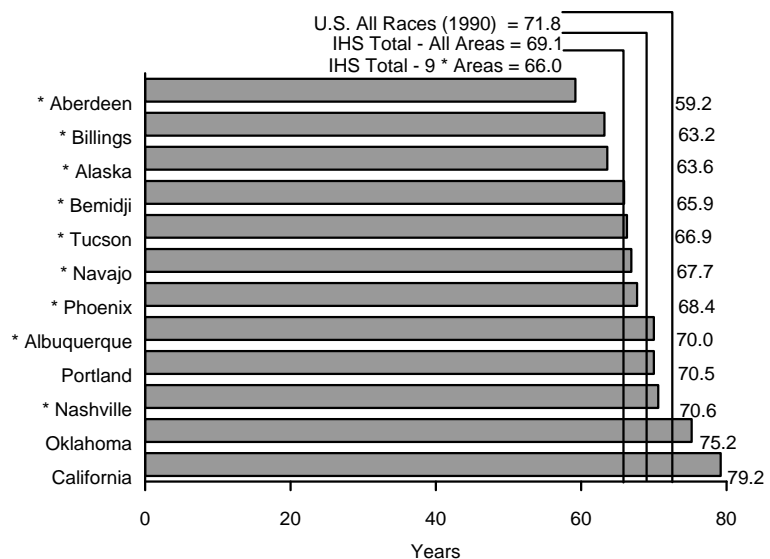


Chart 4.33

Life Expectancy at Birth, Females

Calendar Years 1989–1991

In 1989-1991, the life expectancy at birth for females in the IHS service area population was 77.5 years. When the 3 IHS Areas with apparent problems in underreporting of Indian race on death certificates are excluded, the life expectancy is 74.7 years. This is 4.1 years less than the 1990 figure of 78.8 years for the U.S. All Races female population. Most Areas had figures less than the U.S. figure.

